

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 July 2002 (04.07.2002)

PCT

(10) International Publication Number
WO 02/052873 A3

(51) International Patent Classification⁷: **H04Q 7/38**

(74) Agent: **BENNETT, David, E.**; Coats & Bennett, P.L.L.C.,
Post Office Box 5, Raleigh, NC 27602 (US).

(21) International Application Number: PCT/US01/49713

(22) International Filing Date:
24 December 2001 (24.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/748,368 26 December 2000 (26.12.2000) US

(71) Applicant (for all designated States except US): **TELEFONAKTIEBOLAGET LM ERICSSON** (publ)
[SE/SE]; Telefonplan, S-126 25 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BLOEBAUM, L.,**
Scott [US/US]; 103 Battery Point Place, Cary, NC 27513
(US). **MCMAHAN, David** [US/US]; 5301 Deergrass
Court, Raleigh, NC 27613 (US).

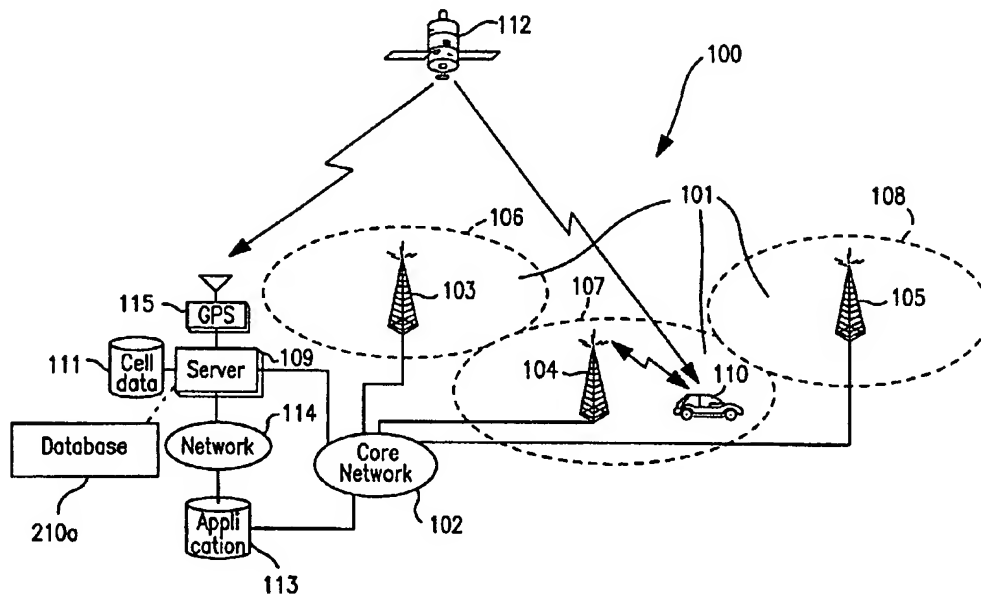
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

[Continued on next page]

(54) Title: MOBILE TERMINAL AND SYSTEM AND METHOD FOR DETERMINING THE GEOGRAPHIC LOCATION OF A MOBILE TERMINAL



(57) Abstract: A mobile terminal and system and method for determining the geographic location of the mobile terminal. A current cell identification number is determined for a cell in which the mobile terminal is located. The geographic location of the mobile terminal is determined based on data including at least one geographic position stored in a database and associated in the database with data representing the current cell identification number. The database may be updated with the geographic location and the current cell identification number.



WO 02/052873 A3



(88) Date of publication of the international search report:
27 March 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/49713

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04Q7/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 744 727 A (HIGHWAYMASTER COMMUNICATIONS, INC.) 27 November 1996 (1996-11-27) column 10, line 35 -column 11, line 44; claims 30-32; figures 1,2,6 *Idem*	1,13,24, 37,47
A	----	2-12, 14-23, 25-36, 38-46, 48-62
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the International filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the International filing date but later than the priority date claimed

"T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search

13 November 2002

Date of mailing of the International search report

25/11/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Danielidis, S

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/49713

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 115 611 A (KIMOTO ET AL.) 5 September 2000 (2000-09-05) abstract; figures 7,9,10,37,48 column 27, line 63 -column 29, line 57 column 33, line 1 - line 15 column 33, line 30 -column 34; line 41	1,13,24, 37,47
A	-----	2-12, 14-23, 25-36, 38-46, 48-62
A	US 5 519 760 A (BORKOWSKI ET AL.) 21 May 1996 (1996-05-21) abstract; figures 1-4 column 2, line 22 - line 48	1,13,24, 37,47
A	-----	
A	US 5 408 683 A (ABLAY ET AL.) 18 April 1995 (1995-04-18) abstract; figures 2-4B column 8, line 1 - line 11	1,13,24, 37,47
A	-----	
A	US 6 111 539 A (MANNINGS ET AL.) 29 August 2000 (2000-08-29) abstract; figures 1,4,6 column 5, line 46 - line 64 column 11, line 28 - line 62	1,13,24, 37,47
A	-----	
A	WO 96 36193 A (TELECOM FINLAND OY.) 14 November 1996 (1996-11-14) abstract; figure 1 -----	1,13,24, 37,47

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/49713

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 744727	A	27-11-1996	US 5155689 A EP 0744727 A2 AT 192597 T DE 69132158 D1 EP 0501058 A2 NO 912516 A ,B, NO 963257 A US 5884221 A US 6148202 A US 5398190 A US 5513111 A US 5734981 A US 5519621 A US 5652707 A US 5832394 A US 5299132 A	13-10-1992 27-11-1996 15-05-2000 08-06-2000 02-09-1992 20-01-1992 20-01-1992 16-03-1999 14-11-2000 14-03-1995 30-04-1996 31-03-1998 21-05-1996 29-07-1997 03-11-1998 29-03-1994
US 6115611	A	05-09-2000	JP 10013961 A	16-01-1998
US 5519760	A	21-05-1996	CA 2169955 A1 EP 0714589 A1 JP 9502333 T WO 9535636 A1	28-12-1995 05-06-1996 04-03-1997 28-12-1995
US 5408683	A	18-04-1995	NONE	
US 6111539	A	29-08-2000	AU 684228 B2 AU 3393195 A AU 695816 B2 AU 5538998 A CA 2198886 A1 DE 69506563 D1 DE 69506563 T2 DK 777863 T3 EP 1085345 A1 EP 0777863 A1 EP 0837341 A1 ES 2126931 T3 FI 970848 A WO 9607110 A1 JP 10505420 T NO 970940 A NZ 292210 A NZ 329889 A US 6169515 B1	04-12-1997 22-03-1996 20-08-1998 23-04-1998 07-03-1996 21-01-1999 06-05-1999 16-08-1999 21-03-2001 11-06-1997 22-04-1998 01-04-1999 28-02-1997 07-03-1996 26-05-1998 28-02-1997 28-07-1998 28-05-1999 02-01-2001
WO 9636193	A	14-11-1996	FI 952280 A AU 5651096 A EP 0779013 A1 WO 9636193 A1	11-11-1996 29-11-1996 18-06-1997 14-11-1996